

RAW SEQUENCE LISTING

**The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.**

Application Serial Number: 10/539,217
Source: PCT
Date Processed by STIC: 06/09/2006

ENTERED



PCT

RAW SEQUENCE LISTING

DATE: 06/09/2006

PATENT APPLICATION: US/10/539,217

TIME: 15:08:01

Input Set : A:\PTO.RJ.txt

Output Set: N:\CRF4\06092006\J539217.raw

3 <110> APPLICANT: The Regents of the University of California
 4 Shokat, Kevan M.
 5 Knight, Zachary
 7 <120> TITLE OF INVENTION: Chemo-Enzymatic Process For Proteome-Wide Mapping of Post-
 Translational
 8 Modification
 10 <130> FILE REFERENCE: 18062G-005410US
 12 <140> CURRENT APPLICATION NUMBER: US 10/539,217
 13 <141> CURRENT FILING DATE: 2005-06-17
 15 <150> PRIOR APPLICATION NUMBER: PCT/ US2003/041118
 16 <151> PRIOR FILING DATE: 2003-12-18
 18 <150> PRIOR APPLICATION NUMBER: US 60/434,696
 19 <151> PRIOR FILING DATE: 2002-12-18
 21 <160> NUMBER OF SEQ ID NOS: 57
 23 <170> SOFTWARE: PatentIn version 3.1
 25 <210> SEQ ID NO: 1
 26 <211> LENGTH: 7
 27 <212> TYPE: PRT
 28 <213> ORGANISM: Artificial Sequence
 30 <220> FEATURE:
 31 <223> OTHER INFORMATION: Peptide containing a cysteic acid residue
 33 <220> FEATURE:
 34 <221> NAME/KEY: MISC_FEATURE
 35 <222> LOCATION: (5)..(5)
 36 <223> OTHER INFORMATION: Xaa = cysteic acid
 39 <400> SEQUENCE: 1
 W--> 41 Leu Arg Arg Ala Xaa Leu Gly
 42 1 5
 45 <210> SEQ ID NO: 2
 46 <211> LENGTH: 4
 47 <212> TYPE: PRT
 48 <213> ORGANISM: Artificial Sequence
 50 <220> FEATURE:
 51 <223> OTHER INFORMATION: Digested peptide fragment after cleavage with peptidyl-
 aspartate
 52 metalloendopeptidase (Asp-N)
 54 <400> SEQUENCE: 2
 56 Leu Arg Arg Ala
 57 1
 60 <210> SEQ ID NO: 3
 61 <211> LENGTH: 9
 62 <212> TYPE: PRT
 63 <213> ORGANISM: Artificial Sequence
 65 <220> FEATURE:

Cpg 6-7)

66 <223> OTHER INFORMATION: Undigested betamethyl aminoethylcysteine modified peptide

RAW SEQUENCE LISTING

DATE: 06/09/2006

PATENT APPLICATION: US/10/539,217

TIME: 15:08:01

Input Set : A:\PTO.RJ.txt

Output Set: N:\CRF4\06092006\J539217.raw

```

68 <220> FEATURE:
69 <221> NAME/KEY: MISC_FEATURE
70 <222> LOCATION: (5)..(5)
71 <223> OTHER INFORMATION: Xaa = beta-methyl aminnoethylcysteine
74 <220> FEATURE:
75 <221> NAME/KEY: MISC_FEATURE
76 <222> LOCATION: (8)..(8)
77 <223> OTHER INFORMATION: Xaa = nitrotyrosine
80 <400> SEQUENCE: 3
W--> 82 Glx Phe Arg Pro Xaa Gly Phe Xaa Glu
      83 1           5
86 <210> SEQ ID NO: 4
87 <211> LENGTH: 9
88 <212> TYPE: PRT
89 <213> ORGANISM: Artificial Sequence
91 <220> FEATURE:
92 <223> OTHER INFORMATION: Undigested phosphorylated peptide
94 <220> FEATURE:
95 <221> NAME/KEY: MISC_FEATURE
96 <222> LOCATION: (5)..(5)
97 <223> OTHER INFORMATION: Xaa = phosphotyrosine
100 <220> FEATURE:
101 <221> NAME/KEY: MISC_FEATURE
102 <222> LOCATION: (8)..(8)
103 <223> OTHER INFORMATION: Xaa = nitrotyrosine
106 <400> SEQUENCE: 4
W--> 108 Glx Phe Arg Pro Xaa Gly Phe Xaa Glu
      109 1           5
112 <210> SEQ ID NO: 5
113 <211> LENGTH: 13
114 <212> TYPE: PRT
115 <213> ORGANISM: Artificial Sequence
117 <220> FEATURE:
118 <223> OTHER INFORMATION: Peptide containing an aminoethylcysteine modification
120 <220> FEATURE:
121 <221> NAME/KEY: MISC_FEATURE
122 <222> LOCATION: (6)..(6)
123 <223> OTHER INFORMATION: Xaa = aminoethylcysteine (K*)
126 <400> SEQUENCE: 5
W--> 128 Asn Lys Pro Pro Arg Xaa Pro Val Val Glu Leu Ser Lys
      129 1           5           10
132 <210> SEQ ID NO: 6
133 <211> LENGTH: 15
134 <212> TYPE: PRT
135 <213> ORGANISM: Artificial Sequence
137 <220> FEATURE:
138 <223> OTHER INFORMATION: Peptide containing a phosphoserine
140 <220> FEATURE:
141 <221> NAME/KEY: MISC_FEATURE

```

RAW SEQUENCE LISTING

DATE: 06/09/2006

PATENT APPLICATION: US/10/539,217

TIME: 15:08:01

Input Set : A:\PTO.RJ.txt

Output Set: N:\CRF4\06092006\J539217.raw

```

142 <222> LOCATION: (7)..(7)
143 <223> OTHER INFORMATION: Xaa = phosphoserine
146 <400> SEQUENCE: 6
W--> 148 Asn Lys Lys Pro Pro Arg Xaa Ser Pro Val Val Glu Leu Ser Lys
      149 1          5          10          15
152 <210> SEQ ID NO: 7
153 <211> LENGTH: 13
154 <212> TYPE: PRT
155 <213> ORGANISM: Artificial Sequence
157 <220> FEATURE:
158 <223> OTHER INFORMATION: unmodified peptide
160 <400> SEQUENCE: 7
162 Asn Lys Pro Pro Arg Ser Pro Val Val Glu Leu Ser Lys
      163 1          5          10
166 <210> SEQ ID NO: 8
167 <211> LENGTH: 23
168 <212> TYPE: PRT
169 <213> ORGANISM: Artificial Sequence
171 <220> FEATURE:
172 <223> OTHER INFORMATION: Guanidinated MARCKS peptide
174 <220> FEATURE:
175 <221> NAME/KEY: MISC_FEATURE
176 <222> LOCATION: (1)..(5)
177 <223> OTHER INFORMATION: Xaa = guanidinylysine
180 <220> FEATURE:
181 <221> NAME/KEY: MISC_FEATURE
182 <222> LOCATION: (8)..(8)
183 <223> OTHER INFORMATION: Xaa = aminoethylcysteine (K*)
186 <220> FEATURE:
187 <221> NAME/KEY: MISC_FEATURE
188 <222> LOCATION: (10)..(12)
189 <223> OTHER INFORMATION: Xaa = guanidinylysine
192 <220> FEATURE:
193 <221> NAME/KEY: MISC_FEATURE
194 <222> LOCATION: (14)..(14)
195 <223> OTHER INFORMATION: Xaa = aminoethylcysteine (K*)
198 <220> FEATURE:
199 <221> NAME/KEY: MISC_FEATURE
200 <222> LOCATION: (19)..(20)
201 <223> OTHER INFORMATION: Xaa = guanidinylysine
204 <220> FEATURE:
205 <221> NAME/KEY: MISC_FEATURE
206 <222> LOCATION: (22)..(23)
207 <223> OTHER INFORMATION: Xaa = guanidinylysine
210 <400> SEQUENCE: 8
W--> 212 Xaa Xaa Xaa Xaa Xaa Arg Phe Xaa Phe Xaa Xaa Xaa Phe Xaa Leu Ser
      213 1          5          10          15
216 Gly Phe Xaa Xaa Asn Xaa Xaa
      217          20

```

RAW SEQUENCE LISTING

DATE: 06/09/2006

PATENT APPLICATION: US/10/539,217

TIME: 15:08:01

Input Set : A:\PTO.RJ.txt

Output Set: N:\CRF4\06092006\J539217.raw

```

220 <210> SEQ ID NO: 9
221 <211> LENGTH: 8
222 <212> TYPE: PRT
223 <213> ORGANISM: Artificial Sequence
225 <220> FEATURE:
226 <223> OTHER INFORMATION: Acetylated MARCKS peptide after cleavage with endoproteinase
Lys-
227      C (Lys-C)
229 <220> FEATURE:
230 <221> NAME/KEY: MISC_FEATURE
231 <222> LOCATION: (8)..(8)
232 <223> OTHER INFORMATION: Xaa = aminoethylcysteine (K*)
235 <400> SEQUENCE: 9
W--> 237 Lys Lys Lys Lys Lys Arg Phe Xaa
      238 1          5
241 <210> SEQ ID NO: 10
242 <211> LENGTH: 12
243 <212> TYPE: PRT
244 <213> ORGANISM: Artificial Sequence
246 <220> FEATURE:
247 <223> OTHER INFORMATION: Acetylated MARCKS peptide after cleavage with endoproteinase
Lys-
248      C (Lys-C)
250 <220> FEATURE:
251 <221> NAME/KEY: MISC_FEATURE
252 <222> LOCATION: (8)..(8)
253 <223> OTHER INFORMATION: Xaa - aminoethylcysteine (K*)
256 <220> FEATURE:
257 <221> NAME/KEY: MISC_FEATURE
258 <222> LOCATION: (12)..(12)
259 <223> OTHER INFORMATION: Xaa - aminoethylcysteine (K*)
262 <400> SEQUENCE: 10
W--> 264 Lys Lys Lys Lys Lys Arg Phe Xaa Phe Lys Lys Xaa
      265 1          5          10
268 <210> SEQ ID NO: 11
269 <211> LENGTH: 19
270 <212> TYPE: PRT
271 <213> ORGANISM: Artificial Sequence
273 <220> FEATURE:
274 <223> OTHER INFORMATION: Acetylated MARCKS peptide after cleavage with endoproteinase
Lys-
275      C (Lys-C)
277 <220> FEATURE:
278 <221> NAME/KEY: MISC_FEATURE
279 <222> LOCATION: (8)..(8)
280 <223> OTHER INFORMATION: Xaa = aminoethylcysteine
283 <220> FEATURE:
284 <221> NAME/KEY: MISC_FEATURE
285 <222> LOCATION: (12)..(12)
286 <223> OTHER INFORMATION: Xaa = aminoethylcysteine
289 <220> FEATURE:
290 <221> NAME/KEY: MISC_FEATURE

```

RAW SEQUENCE LISTING

DATE: 06/09/2006

PATENT APPLICATION: US/10/539,217

TIME: 15:08:01

Input Set : A:\PTO.RJ.txt

Output Set: N:\CRF4\06092006\J539217.raw

```

291 <222> LOCATION: (19)..(19)
292 <223> OTHER INFORMATION: Xaa = aminoethylcysteine
295 <400> SEQUENCE: 11
W--> 297 Lys Lys Lys Lys Lys Arg Phe Xaa Phe Lys Lys Xaa Phe Lys Leu Ser
      298 1           5           10           15
      301 Gly Phe Xaa
      305 <210> SEQ ID NO: 12
      306 <211> LENGTH: 25
      307 <212> TYPE: PRT
      308 <213> ORGANISM: Artificial Sequence
      310 <220> FEATURE:
      311 <223> OTHER INFORMATION: Acetylated MARCKS peptide after cleavage with endoproteinase
Lys-
      312 C (Lys-C)
      314 <220> FEATURE:
      315 <221> NAME/KEY: MISC_FEATURE
      316 <222> LOCATION: (8)..(8)
      317 <223> OTHER INFORMATION: Xaa = aminoethylcysteine
      320 <220> FEATURE:
      321 <221> NAME/KEY: MISC_FEATURE
      322 <222> LOCATION: (12)..(12)
      323 <223> OTHER INFORMATION: Xaa = aminoethylcysteine
      326 <220> FEATURE:
      327 <221> NAME/KEY: MISC_FEATURE
      328 <222> LOCATION: (19)..(19)
      329 <223> OTHER INFORMATION: Xaa = aminoethylcysteine
      332 <400> SEQUENCE: 12
W--> 334 Lys Lys Lys Lys Lys Arg Phe Xaa Phe Lys Lys Xaa Phe Lys Leu Ser
      335 1           5           10           15
      338 Gly Phe Xaa Phe Lys Lys Asn Lys Lys
      339           20           25
      342 <210> SEQ ID NO: 13
      343 <211> LENGTH: 8
      344 <212> TYPE: PRT
      345 <213> ORGANISM: Artificial Sequence
      347 <220> FEATURE:
      348 <223> OTHER INFORMATION: Acetylated MARCKS peptide after cleavage with endoproteinase
Lys-
      349 C (Lys-C)
      351 <220> FEATURE:
      352 <221> NAME/KEY: MISC_FEATURE
      353 <222> LOCATION: (1)..(1)
      354 <223> OTHER INFORMATION: Xaa = aminoethylcysteine
      357 <220> FEATURE:
      358 <221> NAME/KEY: MISC_FEATURE
      359 <222> LOCATION: (8)..(8)
      360 <223> OTHER INFORMATION: Xaa = aminoethylcysteine
      363 <400> SEQUENCE: 13
W--> 365 Xaa Phe Lys Leu Ser Gly Phe Xaa
      366 1           5
      369 <210> SEQ ID NO: 14

```

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/10/539,217

DATE: 06/09/2006
TIME: 15:08:02

Input Set : A:\PTO.RJ.txt
Output Set: N:\CRF4\06092006\J539217.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; Xaa Pos. 5
Seq#:3; Xaa Pos. 5,8
Seq#:4; Xaa Pos. 5,8
Seq#:5; Xaa Pos. 6
Seq#:6; Xaa Pos. 7
Seq#:8; Xaa Pos. 1,2,3,4,5,8,10,11,12,14,19,20,22,23
Seq#:9; Xaa Pos. 8
Seq#:10; Xaa Pos. 8,12
Seq#:11; Xaa Pos. 8,12,19
Seq#:12; Xaa Pos. 8,12,19
Seq#:13; Xaa Pos. 1,8
Seq#:14; Xaa Pos. 1
Seq#:15; Xaa Pos. 1,5,12
Seq#:16; Xaa Pos. 7
Seq#:17; Xaa Pos. 1,5,12
Seq#:18; Xaa Pos. 8
Seq#:19; Xaa Pos. 15
Seq#:20; Xaa Pos. 6
Seq#:21; Xaa Pos. 4
Seq#:22; Xaa Pos. 5
Seq#:23; Xaa Pos. 5
Seq#:24; Xaa Pos. 5
Seq#:25; Xaa Pos. 3
Seq#:26; Xaa Pos. 4,6,12
Seq#:27; Xaa Pos. 1,3,9
Seq#:28; Xaa Pos. 1,7
Seq#:29; Xaa Pos. 10
Seq#:30; Xaa Pos. 10
Seq#:31; Xaa Pos. 6
Seq#:32; Xaa Pos. 1
Seq#:33; Xaa Pos. 15,17,18,19
Seq#:34; Xaa Pos. 15,17,18,19
Seq#:35; Xaa Pos. 15,17,18
Seq#:36; Xaa Pos. 15,17
Seq#:37; Xaa Pos. 15
Seq#:38; Xaa Pos. 3
Seq#:39; Xaa Pos. 1
Seq#:40; Xaa Pos. 1,8,12,19
Seq#:41; Xaa Pos. 1,8,12,19
Seq#:42; Xaa Pos. 1,8,12
Seq#:43; Xaa Pos. 1,8
Seq#:44; Xaa Pos. 4,11
Seq#:45; Xaa Pos. 4,11
Seq#:46; Xaa Pos. 7

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/10/539,217

DATE: 06/09/2006
TIME: 15:08:02

Input Set : A:\PTO.RJ.txt
Output Set: N:\CRF4\06092006\J539217.raw

Seq#:47; Xaa Pos. 1
Seq#:49; Xaa Pos. 5
Seq#:50; Xaa Pos. 3
Seq#:51; Xaa Pos. 1
Seq#:52; Xaa Pos. 6
Seq#:53; Xaa Pos. 3,6
Seq#:54; Xaa Pos. 6

VERIFICATION SUMMARY

DATE: 06/09/2006

PATENT APPLICATION: US/10/539,217

TIME: 15:08:02

Input Set : A:\PTO.RJ.txt

Output Set : N:\CRF4\06092006\J539217.raw

L:41 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:0
L:82 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0
L:108 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:0
L:128 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:0
L:148 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:0
L:212 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:0
M:341 Repeated in SeqNo=8
L:237 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:0
L:264 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:0
L:297 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:0
M:341 Repeated in SeqNo=11
L:334 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:0
M:341 Repeated in SeqNo=12
L:365 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:0
L:386 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:0
L:419 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15 after pos.:0
L:440 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16 after pos.:0
L:473 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17 after pos.:0
L:497 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18 after pos.:0
L:517 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19 after pos.:0
L:541 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20 after pos.:0
L:565 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21 after pos.:0
L:585 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22 after pos.:0
L:605 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23 after pos.:0
L:625 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24 after pos.:0
L:645 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:25 after pos.:0
L:678 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:26 after pos.:0
L:711 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27 after pos.:0
L:738 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:28 after pos.:0
L:759 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:29 after pos.:0
L:780 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:30 after pos.:0
L:801 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31 after pos.:0
L:822 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:32 after pos.:0
L:849 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33 after pos.:0
M:341 Repeated in SeqNo=33
L:880 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:34 after pos.:0
M:341 Repeated in SeqNo=34
L:911 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:35 after pos.:0
M:341 Repeated in SeqNo=35
L:942 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36 after pos.:0
M:341 Repeated in SeqNo=36
L:967 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:37 after pos.:0
L:988 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:38 after pos.:0
L:1009 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39 after pos.:0
L:1048 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40 after pos.:0
M:341 Repeated in SeqNo=40
L:1091 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:41 after pos.:0
M:341 Repeated in SeqNo=41

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/539,217

DATE: 06/09/2006

TIME: 15:08:02

Input Set : A:\PTO.RJ.txt

Output Set: N:\CRF4\06092006\J539217.raw

L:1128 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42 after pos.:0

L:1155 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:43 after pos.:0